

PTO/SB/21 (04-04)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/644,361
Filing Date	August 20, 2003
First Named Inventor	Kwak et al.
Art Unit	2631
Examiner Name	Mohammad H. Ghayour
Attorney Docket Number	I-2-0304.1US

ENCLOSURES (Check all that apply)

- | | | |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Fee Transmittal Form | <input type="checkbox"/> Drawing(s) | <input type="checkbox"/> After Allowance communication to Technology Center (TC) |
| <input type="checkbox"/> Fee Attached | <input type="checkbox"/> Licensing-related Papers | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences |
| <input type="checkbox"/> Amendment/Reply | <input type="checkbox"/> Petition | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information |
| <input type="checkbox"/> Affidavits/declaration(s) | <input type="checkbox"/> Power of Attorney, Revocation | <input type="checkbox"/> Status Letter |
| <input type="checkbox"/> Extension of Time Request | <input type="checkbox"/> Change of Correspondence Address | <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): |
| <input type="checkbox"/> Express Abandonment Request | <input type="checkbox"/> Terminal Disclaimer | Form PTO-1449 w/ a copy of the Supplementary European Search Report and three (3) references |
| <input checked="" type="checkbox"/> Supplemental Information Disclosure Statement | <input type="checkbox"/> Request for Refund | |
| <input type="checkbox"/> Certified Copy of Priority Document(s) | <input type="checkbox"/> CD, Number of CD(s) _____ | |
| <input type="checkbox"/> Response to Missing Parts/Incomplete Application | <input type="text" value="Remarks"/> | |
| <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | | |

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Michael L. Berman	Reg. No. 51,464
	Volpe and Koenig, P.C.	
Signature		
Date	February 17, 2006	

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Michael L. Berman		
Signature		Date	February 17, 2006

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Kwak et al.

Application No.: 10/644,361

Confirmation No.: 6406

Filed: August 20, 2003

For: EFFICIENT JOINT DETECTION

Group: 2631

Examiner: Mohammad H. Ghayour

Our File: I-2-0304.1US

Date: February 17, 2006

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
INCLUDING RULE 1.704(d) STATEMENT**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Further to Applicants' Duty of Disclosure pursuant to 37 C.F.R. §1.56, Applicants wish to bring to the Examiner's attention the material cited on the enclosed PTO-1449 form. Newly cited documents are indicated by an asterisk (*). Copies of the newly cited documents are enclosed.


Per Rule 1.704(d), the undersigned certifies that each newly cited item of information contained in this Supplemental Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application, copy enclosed, and that this communication was not received by any individual designated in §1.56(c) more than thirty (30) days prior to the filing of the supplemental

information disclosure statement.

It is respectfully requested that the Examiner consider these documents and return an initialed copy of the PTO-1449 form indicating his/her consideration of the cited materials.

Respectfully submitted,

Kwak et al.

By 
Michael L. Berman
Registration No. 51,464
(215) 568-6400

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103

MLB/ks
Enclosures (5)



FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				ATTY. DOCKET NO. I-2-0304.1US		SERIAL NO. 10/644,361	
				APPLICANT Kwak et al.			
				FILING DATE August 20, 2003		GROUP 2631	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,208,295	03/2001	Dogan et al.			
		6,370,0129	04/2002	Huang			
		6,252,540	06/2001	Hale et al.			
		6,144,711	11/2000	Raleigh et al.			
		2003/0021335	01/2003	De et al.			
		2003/0026325	02/2003	De et al.			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
		02/13266	04/2002	WO			
	*	02/089346	11/2002	WO			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
		Anja Klein, Ghassan Kawas Kaleh and Paul Walter Baier, "Zero Forcing and Minimum Mean-Square-Error Equalization for Multiuser Detection in Code-Division Multiple-Access Channels," IEEE Transactions on Vehicular Technology, Vol. 45, No. 2, May 1996					
		Anja Klein, "Data Detection Algorithms Specially Designed for the Downlink of CDMA Mobile Radio Systems," IEEE 47th Vehicular Technology Conference, Phoenix, AZ, USA, May 4-7, 1997					
		H.R. Karimi and N.W. Anderson, "A Novel and Efficient Solution to Block-Based Joint-Detection Using Approximate Cholesky Factorization," Motorola GSM Products Division, Swindon, UK, 1998.					

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				ATTY. DOCKET NO. I-2-0304.1US		SERIAL NO. 10/644,361	
				APPLICANT Kwak et al.			
				FILING DATE August 20, 2003		GROUP 2631	

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS								
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
		PA Consulting Group/Racal Instruments Ltd., "Low Cost MMSE-BLE-SD Algorithm for UTRA TDD Mode Downlink," ETSI STC SMG2 Layer 1 Expert Group, Helsinki, Finland, 8-11th Sept. 1998.
		Anja Klein and Paul W. Baier, "Linear Unbiased Data Estimation in Mobile Radio Systems Applying CDMA, " IEEE Journal on Selected Areas in Communications, Vol. 11, No. 7, Sept. 1993.
	*	Vollmer et al., "Comparative Study of Joint-Detection Techniques for TD-CDMA Based Mobile Radio Systems", IEEE Journal on Selected Areas in Communications, IEEE, Vol. 19, No. 8, August 2001, pp. 1461-1475.
	*	Pan et al., "Low Complexity Data Detection Using Fast Fourier Transform Decomposition of Channel Correlation Matrix", 2001 IEEE Global Telecommunications Conference, Vol. 2 of 6, November 2001, pp. 1322-1326.

EXAMINER	DATE CONSIDERED
-----------------	------------------------

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.